

SEQUENCE LISTING

<110> Anderson, Christen M.
 Davis, Robert E.
 Clevenger, William
 Wiley, Sandra Eileen
 Willer, Scott W.
 Szabo, Tomas R.
 Ghosh, Soumitra S.
 Moos, Walter H.
 Pei, Yazhong

<120> PRODUCTION OF ADENINE NUCLEOTIDE TRANSLOCATOR (ANT),
 NOVEL ANT LIGANDS AND SCREENING ASSAYS THEREFOR

<130> 660088.420D6

<140> US

<141> 2001-03-16

<160> 37

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 894

<212> DNA

<213> Homo sapien

<400> 1

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| gtctccaaga | ccgcggtcgc | ccccatcgag | aggggtcaaac | tgctgctgca | ggtccagcat | 120 |
| gccagcaaac | agatcagtg | tgagaagcag | tacaaaggga | tcattgattg | tgtggtgaga | 180 |
| atccctaagg | agcagggtct | cctctccttc | tggaggggta | acctggccaa | cgtgatccgt | 240 |
| tacttcccca | cccaagctct | caacttcgcc | ttcaaggaca | agtacaagca | gctcttctta | 300 |
| gggggtgtgg | atcgggcataa | gcagttctgg | cgctactttg | ctggtaacct | ggcgcccggt | 360 |
| ggggccgctg | gggccacctc | cctttgtctt | gtctaccgcg | tggactttgc | taggaccagg | 420 |
| ttggctgctg | atgtgggcag | gcgcgcccag | cgtgagttcc | atggtctggg | cgactgtatc | 480 |
| atcaagatct | tcaagtctga | tggcctgagg | gggctctacc | agggtttcaa | cgtctctgtc | 540 |
| caaggcatca | ttatctatag | agctgcctac | ttcggagtct | atgatactgc | caaggggatg | 600 |
| ctgcctgacc | ccaagaacgt | gcacattttt | gtgagctgga | tgattgcccc | gagtgtgacg | 660 |
| gcagtcgcag | ggctgctgtc | ctaccctttt | gacactgttc | gtcgtagaat | gatgatgcag | 720 |
| tccggccgga | aaggggcccga | tattatgtac | acggggacag | ttgactgctg | gaggaagatt | 780 |
| gcaaaagacg | aaggagccaa | ggccttcttc | aaaggtgcct | ggtccaatgt | gctgagaggg | 840 |
| atgggcggtg | cttttgtatt | ggtgttgtat | gatgagatca | aaaaatatgt | ctaa | 894 |

<210> 2

<211> 897

<212> DNA

<213> Homo sapien

<400> 2

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| atgacagatg | ccgcattgtc | cttcgccaa | gacttcctgg | cagggtggagt | ggccgcagcc | 60 |
| atctccaaga | cggcggtagc | ccccatcgag | cgggtcaagc | tgctgctgca | ggtgcagcat | 120 |
| gccagcaagc | agatcactgc | agataagcaa | tacaaaggca | ttatagactg | cgtgggtccgt | 180 |
| attcccaagg | agcaggaagt | tctgtccttc | tggcgcggtg | acctggccaa | tgatcatcaga | 240 |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tacttcccca | cccaggctct | taacttcgcc | ttcaaagata | aatacaagca | gatcttcctg | 300 |
| ggtggtgtgg | acaagagaac | ccagtttttg | cgctactttg | cagggaatct | ggcatcgggt | 360 |
| ggtgccgcag | gggccacatc | cctgtgtttt | gtgtaccctc | ttgattttgc | ccgtaccctg | 420 |
| ctagcagctg | atgtgggtaa | agctggagct | gaaaggggaat | tccgaggcct | cggtgactgc | 480 |
| ctgggtaaga | tctacaaatc | tgatgggatt | aagggcctgt | accaaggctt | taacgtgtct | 540 |
| gtgcagggta | ttatcatcta | ccgagccgcc | tacttcggta | tctatgacac | tgcaaagggg | 600 |
| atgcttcccg | atcccaagaa | cactcacatc | gtcatcagct | ggatgatcgc | acagactgtc | 660 |
| actgctgttg | ccgggttgac | ttcctatcca | tttgacaccg | ttcgccgccg | catgatgatg | 720 |
| cagtcagggc | gcaaaggaa | tgacatcatg | tacacaggca | cgcttgactg | ctggcgggag | 780 |
| attgctcgtg | atgaaggagg | caaagctttt | ttcaagggtg | catggtccaa | tgttctcaga | 840 |
| ggcatgggtg | gtgcttttgt | gcttgtcttg | tatgatgaaa | tcaagaagta | cacataa | 897 |

<210> 3

<211> 897

<212> DNA

<213> Homo sapien

<400> 3

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| atctccaaga | cggccgtggc | tccgatcgag | cgggtcaagc | tgctgtgca | ggtccagcac | 120 |
| gccagcaagc | agatcgccgc | cgacaagcag | tacaagggca | tcgtggactg | cattgtccgc | 180 |
| atccccaagg | agcagggcgt | gctgtccttc | tgagggggca | accttgccaa | cgtcattcgc | 240 |
| tacttcccca | ctcaagccct | caacttcgcc | ttcaaggata | agtacaagca | gatcttcctg | 300 |
| gggggcgtgg | acaagcacac | gcagttctgg | aggtactttg | cgggcaacct | ggcctccggc | 360 |
| ggtgcggccg | gcgcgacctc | cctctgcttc | gtgtaccgcg | tggtttttgc | cagaaccgcg | 420 |
| ctggcagcgg | acgtgggaaa | gtcaggcaca | gagcgcgagt | tccgaggcct | gggagactgc | 480 |
| ctggtgaaga | tcaccaagtc | cgacggcatc | cggggcctgt | accagggctt | cagtgtctcc | 540 |
| gtgcagggca | tcatcatcta | ccgggcggcc | tacttcggcg | tgtacgatac | ggccaagggc | 600 |
| atgctccccg | accccaagaa | cacgcacatc | gtggtgagct | ggatgatcgc | gcagaccgtg | 660 |
| acggccgtgg | ccggcggtgt | gtcctacccc | ttcgacacgg | tgcggcggcg | catgatgatg | 720 |
| cagtcggggc | gcaaaggagc | tgacatcatg | tacacgggca | ccgtcgactg | ttggagggaag | 780 |
| atcttcagag | atgagggggg | caaggccttc | ttcaagggtg | cggtgtccaa | cgtcctgcgg | 840 |
| ggcatggggg | gcgccttcgt | gctggtcctg | tacgacgagc | tcaagaaggt | gatctaa | 897 |

<210> 4

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 4

| | | | | | |
|------------|------------|------------|------------|-----|----|
| ttatatctcg | agtatgggtg | atcacgcttg | gagcttccta | aag | 43 |
|------------|------------|------------|------------|-----|----|

<210> 5

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 5

| | | | | | |
|------------|------------|------------|------------|-----|----|
| tatataggta | ccttagacat | atTTTTTgat | ctcatcatac | aac | 43 |
|------------|------------|------------|------------|-----|----|

<210> 6

<211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR Primer

<400> 6
 ttatatctcg agtatgacag atgccgctgt gtccttcgcc aag 43

<210> 7
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR Primer

<400> 7
 tatataggta ccttatgtgt acttcttgat ttcatcatatc aag 43

<210> 8
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR Primer

<400> 8
 ttatatctcg agtatgacgg aacaggccat ctccttcgcc aaa 43

<210> 9
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR Primer

<400> 9
 tatataggta ccttagagtc accttcttga gtcgctcgta cagg 44

<210> 10
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Sequence primer

<400> 10
 tatgccatag catttttatc c 21

<210> 11
 <211> 18
 <212> DNA

<213> Artificial Sequence
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 <223> Sequence primer
 <400> 11
 cgccaaaaca gccaaagct 18
 <210> 12
 <211> 45
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 <213> Artificial Sequence
 <220>
 <223> Mutagenic oligonucleotide primer
 <400> 12
 ggagatggcc tggtccgtca tcttatcgta atcgctgtac agatc 45
 <210> 13
 <211> 45
 <212> DNA
 <213> Artificial Sequence
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 <223> Mutagenic oligonucleotide primer
 <400> 13
 gatctgtacg acgatgacga taagatgacg gaacaggcca tctcc 45
 <210> 14
 <211> 35
 <212> DNA
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 <223> PCR primer
 <400> 14
 cccggggaat tctgatgacg gaacaggcca tctcc 35
 <210> 15
 <211> 34
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> PCR primer
 <400> 15
 cccgggctcg agttagagtc accttcttga gctc 34
 <210> 16
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

 <400> 16
 ttataggatc catgacggaa caggccatct ccttcgcaa a 41

 <210> 17
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer

 <400> 17
 ttaaagaatt cttagatcac cttcttgagc tcgtcgta g 41

 <210> 18
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

 <400> 18
 aaatgataac catctcgc 18

 <210> 19
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

 <400> 19
 acttcaagga gaatttcc 18

 <210> 20
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

 <400> 20
 acttcgcctt cacggata 18

 <210> 21
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

<400> 21
 tacggccaag ggcattct 18

 <210> 22
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

 <400> 22
 tgaagcggaa gttcctat 18

 <210> 23
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequencing primer

 <400> 23
 atgccggttc ccgtacga 18

 <210> 24
 <211> 31
 <212> DNA
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 <223> Mutagenic oligonucleotide primer

 <400> 24
 ggccgtgtcc gtcatttat cgtcatcgtc g 31

 <210> 25
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 <220>
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 <400> 25
 cgacgatgac gataagatga cggaacaggc c 31

 <210> 26
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer

 <400> 26

ttaaagaatt catgacggaa caggccatct cttcgccaa a 41

<210> 27
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 27
 ttataggatc cttagatcac cttcttgagc tcgtcgtaga g 41

<210> 28
 <211> 42
 <212> DNA
 <213> Artificial Sequence

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<400> 28
 ttaatgggta ccatgacgga acaggccatc tccttcgcca aa 42

<210> 29
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 29
 ttatactoga gttagatcac cttcttgagc tcgtcgtaga gg 42

<210> 30
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide

<400> 30
 Cys Trp Arg Lys Ile Phe Arg Asp Glu Gly Gly Lys Ala Phe Phe
 1 5 10 15

<210> 31
 <211> 297
 <212> PRT
 <213> Homo sapien

<400> 31
 Met Gly Asp His Ala Trp Ser Phe Leu Lys Asp Phe Leu Ala Gly Ala
 1 5 10 15
 Val Ala Ala Ala Val Ser Lys Thr Ala Val Ala Pro Ile Glu Arg Val
 20 25 30

Lys Leu Leu Leu Gln Val Gln His Ala Ser Lys Gln Ile Ser Ala Glu
 35 40 45
 Lys Gln Tyr Lys Gly Ile Ile Asp Cys Val Val Arg Ile Pro Lys Glu
 50 55 60
 Gln Gly Phe Leu Ser Phe Trp Arg Gly Asn Leu Ala Asn Val Ile Arg
 65 70 75 80
 Tyr Phe Pro Thr Gln Ala Leu Asn Phe Ala Phe Lys Asp Lys Tyr Lys
 85 90 95
 Gln Leu Phe Leu Gly Gly Val Asp Arg His Lys Gln Phe Trp Arg Tyr
 100 105 110
 Phe Ala Gly Asn Leu Ala Ser Gly Gly Ala Ala Gly Ala Thr Ser Leu
 115 120 125
 Cys Phe Val Tyr Pro Leu Asp Phe Ala Arg Thr Arg Leu Ala Ala Asp
 130 135 140
 Val Gly Arg Arg Ala Gln Arg Glu Phe His Gly Leu Gly Asp Cys Ile
 145 150 155 160
 Ile Lys Ile Phe Lys Ser Asp Gly Leu Arg Gly Leu Tyr Gln Gly Phe
 165 170 175
 Asn Val Ser Val Gln Gly Ile Ile Ile Tyr Arg Ala Ala Tyr Phe Gly
 180 185 190
 Val Tyr Asp Thr Ala Lys Gly Met Leu Pro Asp Pro Lys Asn Val His
 195 200 205
 Ile Phe Val Ser Trp Met Ile Ala Gln Ser Val Thr Ala Val Ala Gly
 210 215 220
 Leu Leu Ser Tyr Pro Phe Asp Thr Val Arg Arg Arg Met Met Met Gln
 225 230 235 240
 Ser Gly Arg Lys Gly Ala Asp Ile Met Tyr Thr Gly Thr Val Asp Cys
 245 250 255
 Trp Arg Lys Ile Ala Lys Asp Glu Gly Ala Lys Ala Phe Phe Lys Gly
 260 265 270
 Ala Trp Ser Asn Val Leu Arg Gly Met Gly Gly Ala Phe Val Leu Val
 275 280 285
 Leu Tyr Asp Glu Ile Lys Lys Tyr Val
 290 295

<210> 32
 <211> 298
 <212> PRT
 <213> Homo sapien

<400> 32
 Met Thr Asp Ala Ala Leu Ser Phe Ala Lys Asp Phe Leu Ala Gly Gly
 1 5 10 15
 Val Ala Ala Ala Ile Ser Lys Thr Ala Val Ala Pro Ile Glu Arg Val
 20 25 30
 Lys Leu Leu Leu Gln Val Gln His Ala Ser Lys Gln Ile Thr Ala Asp
 35 40 45
 Lys Gln Tyr Lys Gly Ile Ile Asp Cys Val Val Arg Ile Pro Lys Glu
 50 55 60
 Gln Glu Val Leu Ser Phe Trp Arg Gly Asn Leu Ala Asn Val Ile Arg
 65 70 75 80
 Tyr Phe Pro Thr Gln Ala Leu Asn Phe Ala Phe Lys Asp Lys Tyr Lys
 85 90 95
 Gln Ile Phe Leu Gly Gly Val Asp Lys Arg Thr Gln Phe Trp Arg Tyr
 100 105 110
 Phe Ala Gly Asn Leu Ala Ser Gly Gly Ala Ala Gly Ala Thr Ser Leu
 115 120 125

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Phe | Val | Tyr | Pro | Leu | Asp | Phe | Ala | Arg | Thr | Arg | Leu | Ala | Ala | Asp |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Val | Gly | Lys | Ala | Gly | Ala | Glu | Arg | Glu | Phe | Arg | Gly | Leu | Gly | Asp | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Val | Lys | Ile | Tyr | Lys | Ser | Asp | Gly | Ile | Lys | Gly | Leu | Tyr | Gln | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Phe | Asn | Val | Ser | Val | Gln | Gly | Ile | Ile | Ile | Tyr | Arg | Ala | Ala | Tyr | Phe |
| | | | | 180 | | | | | 185 | | | | | 190 | |
| Gly | Ile | Tyr | Asp | Thr | Ala | Lys | Gly | Met | Leu | Pro | Asp | Pro | Lys | Asn | Thr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| His | Ile | Val | Ile | Ser | Trp | Met | Ile | Ala | Gln | Thr | Val | Thr | Ala | Val | Ala |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Gly | Leu | Thr | Ser | Tyr | Pro | Phe | Asp | Thr | Val | Arg | Arg | Arg | Met | Met | Met |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gln | Ser | Gly | Arg | Lys | Gly | Thr | Asp | Ile | Met | Tyr | Thr | Gly | Thr | Leu | Asp |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Cys | Trp | Arg | Lys | Ile | Ala | Arg | Asp | Glu | Gly | Gly | Lys | Ala | Phe | Phe | Lys |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Ala | Trp | Ser | Asn | Val | Leu | Arg | Gly | Met | Gly | Gly | Ala | Phe | Val | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Val | Leu | Tyr | Asp | Glu | Ile | Lys | Lys | Tyr | Thr | | | | | | |
| | 290 | | | | | 295 | | | | | | | | | |

<210> 33
 <211> 298
 <212> PRT
 <213> Homo sapien

| | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 33 | | | | | | | | | | | | | | | |
| Met | Thr | Glu | Gln | Ala | Ile | Ser | Phe | Ala | Lys | Asp | Phe | Leu | Ala | Gly | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Ala | Ala | Ala | Ile | Ser | Lys | Thr | Ala | Val | Ala | Pro | Ile | Glu | Arg | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Leu | Leu | Leu | Gln | Val | Gln | His | Ala | Ser | Lys | Gln | Ile | Ala | Ala | Asp |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Lys | Gln | Tyr | Lys | Gly | Ile | Val | Asp | Cys | Ile | Val | Arg | Ile | Pro | Lys | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Gln | Gly | Val | Leu | Ser | Phe | Trp | Arg | Gly | Asn | Leu | Ala | Asn | Val | Ile | Arg |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Tyr | Phe | Pro | Thr | Gln | Ala | Leu | Asn | Phe | Ala | Phe | Lys | Asp | Lys | Tyr | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gln | Ile | Phe | Leu | Gly | Gly | Val | Asp | Lys | His | Thr | Gln | Phe | Trp | Arg | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Ala | Gly | Asn | Leu | Ala | Ser | Gly | Gly | Ala | Ala | Gly | Ala | Thr | Ser | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Cys | Phe | Val | Tyr | Pro | Leu | Asp | Phe | Ala | Arg | Thr | Arg | Leu | Ala | Ala | Asp |
| | | | | | | 135 | | | | | 140 | | | | |
| Val | Gly | Lys | Ser | Gly | Thr | Glu | Arg | Glu | Phe | Arg | Gly | Leu | Gly | Asp | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Val | Lys | Ile | Thr | Lys | Ser | Asp | Gly | Ile | Arg | Gly | Leu | Tyr | Gln | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Phe | Ser | Val | Ser | Val | Gln | Gly | Ile | Ile | Ile | Tyr | Arg | Ala | Ala | Tyr | Phe |
| | | | | 180 | | | | | 185 | | | | | 190 | |
| Gly | Val | Tyr | Asp | Thr | Ala | Lys | Gly | Met | Leu | Pro | Asp | Pro | Lys | Asn | Thr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| His | Ile | Val | Val | Ser | Trp | Met | Ile | Ala | Gln | Thr | Val | Thr | Ala | Val | Ala |
| | | 210 | | | | 215 | | | | | 220 | | | | |

Gly Val Val Ser Tyr Pro Phe Asp Thr Val Arg Arg Arg Met Met Met
 225 230 235 240
 Gln Ser Gly Arg Lys Gly Ala Asp Ile Met Tyr Thr Gly Thr Val Asp
 245 250 255
 Cys Trp Arg Lys Ile Phe Arg Asp Glu Gly Gly Lys Ala Phe Phe Lys
 260 265 270
 Gly Ala Trp Ser Asn Val Leu Arg Gly Met Gly Gly Ala Phe Val Leu
 275 280 285
 Val Leu Tyr Asp Glu Leu Lys Lys Val Ile
 290 295

<210> 34
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for PCR amplification of human ANT3 for
 expression construct

<400> 34
 ttaatggtac catgacggaa caggccatct ccttcgcca a 41

<210> 35
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for PCR amplification of human ANT3 for
 expression construct

<400> 35
 ttatactcga gttagatcac cttcttgagc tcgtcgtaca gg 42

<210> 36
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for PCR amplification of EYFP

<400> 36
 gggccctcg agatggtgag caagggcgag 30

<210> 37
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for PCR amplification of EYFP

<400> 37
 gggccctcta gactacttgt acagctcgtc cat 33